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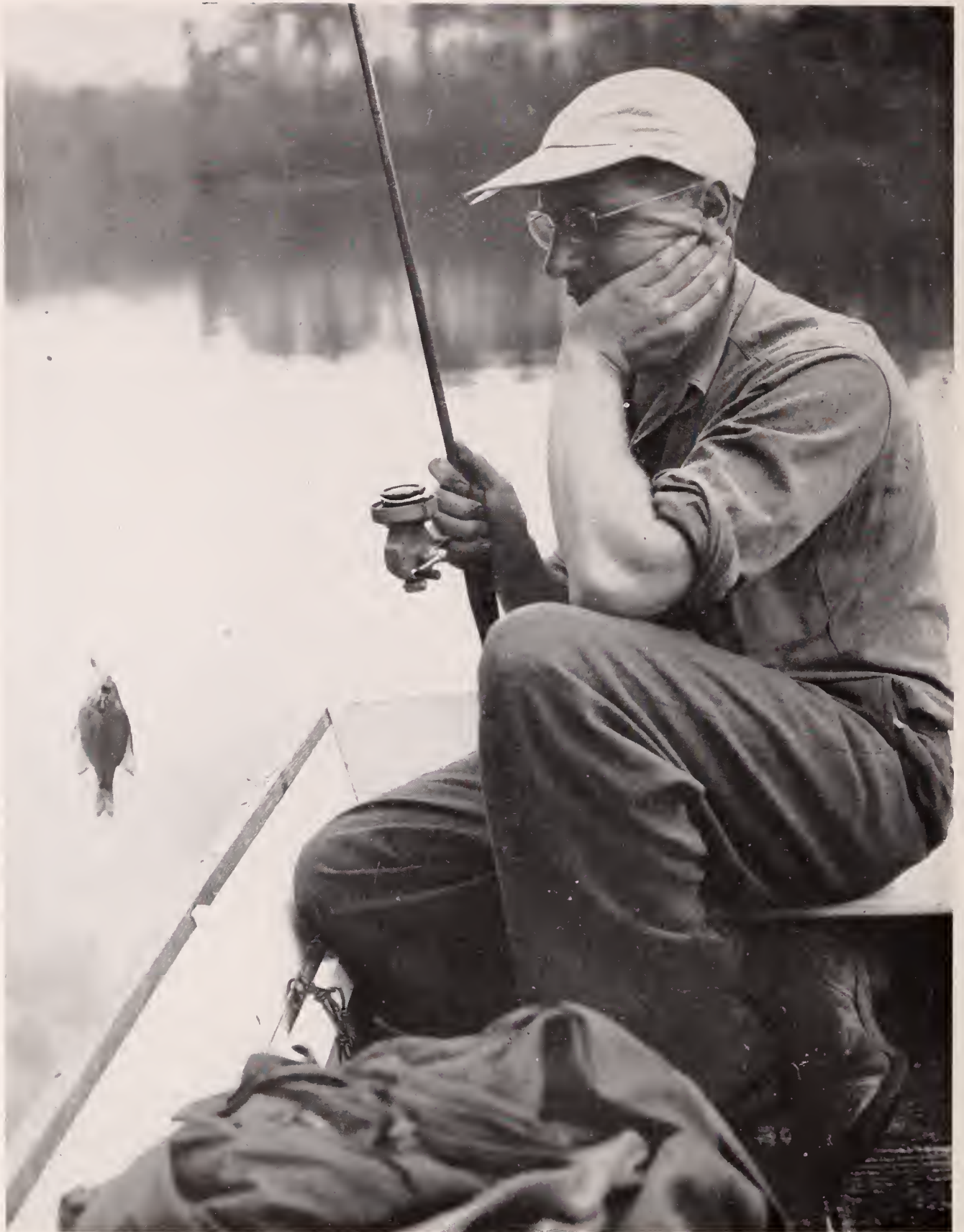


Photo by J. J. Shomon

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# VIRGINIA WILDLIFE

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*A Monthly Magazine for Higher Standards of Outdoor Recreation Through Wildlife Conservation*

## COMMONWEALTH OF VIRGINIA

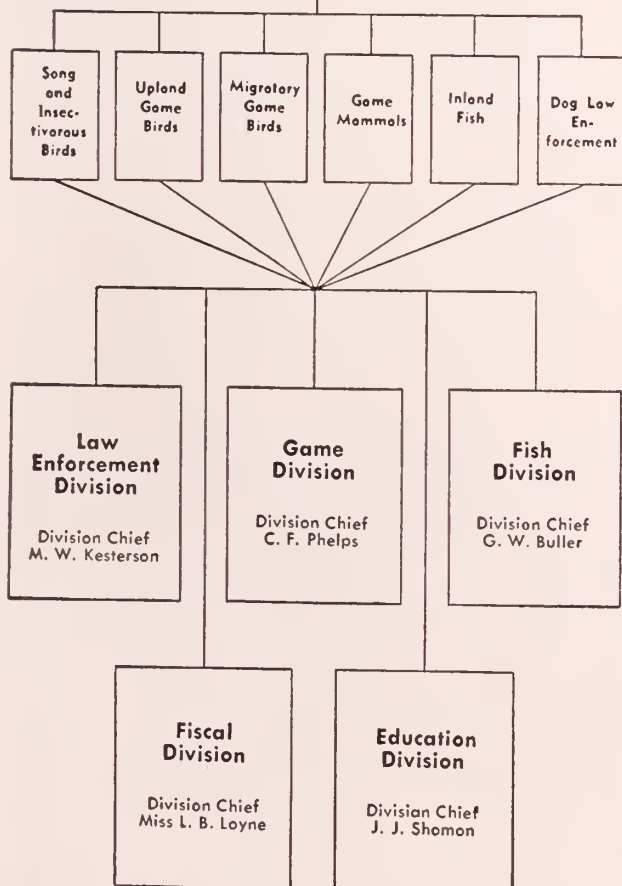


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## Cover Photo

The mother mallard and her brood of young typify summer on the breeding marshes of the North. Virginia hunters may see them next fall.

Photo by Allan D. Cruickshank from  
National Audubon Society

VIRGINIA WILDLIFE gratefully receives for consideration all news items, articles, photographs, sketches and other materials which deal with the use, management and study of Virginia's interrelated, renewable natural resources:

## WILDLIFE

SOILS — CONSERVE — WATER

## FORESTS

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J. J. SHOMON—Editor

# Democracy and Conservation

WHEN OUR ORIGINAL parents lived in the Garden of Eden there was every reason on earth for happiness and obedience. God in His infinite wisdom filled their every want. Yet despite this bountiful existence Adam and Eve plucked the symbolic apple from the tree and threw their wonderful Garden into a land of sadness.

Since that time and down through the ages thereafter, man has been a destroyer of everything and has violated the natural law. In many lands his abuses were so great that his kind perished completely, or drifted to other parts of the earth. Those of us familiar with history know full well how ancient civilizations in the past have passed from lush splendor to complete oblivion because their peoples failed to heed the basic orders and simple rules for existence laid down for them by a Great Man.

Only a little over 300 years ago the last of the remaining great continents of the world was opened to civilization. It was on May 13, 1607, that the three little ships, the *Sara Constant*, the *Goodspeed* and the *Discovery* proceeded up the James and came to rest along a small island where they "*moored to the trees in six fathoms of water.*" The next day 105 sturdy Englishmen aboard—the first Virginians—came ashore and set about establishing Jamestown, the first permanent English settlement in America, and began building a democracy such as the world was yet to know.

It must have been a great sight that greeted the adventurers from the Old World when they set foot on American soil. They had come to find gold and silver and riches for the great queen, but found a world infinitely more valuable than this. Here were forests that seemingly stretched westward to the South Sea; waters teeming with fish; wildlife enough to stagger the imagination. Here above all else was a land free, undeveloped, untouched by inroads of white man.

It is from these shores of Jamestown Island that America has grown to be the greatest civilized nation on earth. This has been made possible only because the people were free and were willing to govern themselves under a democratic way of life. It was made possible because the resources in America seemed limitless and gave courage and inspiration to the colonists to hew out of the forests a nation free of domination from without.

Today our great America is still the land of plenty, although we have no new lands to conquer and our power to produce has been seriously curtailed by the unwise use of our natural resources. If we are to continue to prosper and to hold on to our abundant wealth, then it is time we took careful inventory of our remaining resources and found out where we stand. Today we are having troubled times and the poverty-stricken world looks to America for help. Our horn of plenty must continue to help feed the hungry peoples of the earth until such time as they are able to take care of themselves. This means more food, clothing,

timber, minerals—all products of the earth. Yet we must remember that in doing so, we should not deplete our resources beyond the danger point. If this country continues its present policy of depleting the soil, destroying the forests, wasting animal and plant life, it will in a short time become a poverty-stricken land, inhabited by a constantly decreasing or disgruntled population, facing a hopeless future. Such a fate has overtaken other lands which have exhausted their resources; it can very well happen here.

The greatest danger to our democratic ideals is to destroy the fundamentally inherent qualities which have made America great. Man does not revolt against a government that is making his work and his life happy and his environment more beautiful. An abundant life is a salubrious life. A community and state and nation that satisfies man's wants, and engenders beauty and free life need never fear communism or any of the fearful isms. Rather it will turn the energies of mankind away from the ruin of revolt into the radiance of creative living.

In present-day America we are now in a kind of twilight zone between the further exploitation of the American continent and the enrichment of American culture. We have it within our power to overthrow our democracy and lead the world down the road to socialism and communism, or we can take the other path and lead it toward a finer, nobler type of existence. The bright spot in our picture today is that as a free people we can manage our resources as we see fit.

The primary task of conservationists everywhere is to transform the millions of hand-to-mouth, day by day Americans into a conservation-conscious people, to create a public mind that is informed on wise use. Back of the imaginative and technical engineering that must enter the administration of a conservation program, there is a vast deal of spiritual engineering that also must be done to insure the creation and continuance of a competent and long range program of wise use of everything.

We should remember that while we give billions to other countries for much needed relief, we find ourselves giving too little attention to safeguarding the source of our wealth. There is danger in not giving greater thought to the problem of where shall we get, steadily and eternally, the means to provide for the needs of others as well as for ourselves.

Today, in these very difficult and trying times, probably more than ever before, we need the sustaining influences of the great open places; we need the far away mountains, the deep woods, the tranquility of a millpond to refreshen our tired bodies, to make us get closer to the Great Creator and Code for Living. These things are as much basic to our culture and democratic way of life as reading uncensored newspapers, plowing what we want to on our back forty or going to church on Sunday.

—J. J. S.





Water, pure and clean and plenty of it is essential to our standard of living.

TVA Photo.

# WATER

## A FOREST PRODUCT OF INCREASING IMPORTANCE

By WILBUR O'BYRNE  
*Extension Forester, U. S. F.*

**F**EW EVENTS have so dramatized man's helplessness in the face of natural forces as have the dust storms of the middle thirties and the recent water shortage in New York City. There may be floods along our great rivers, and they may cause immeasurably greater suffering, but these have become an old story and those of us who are not immediately concerned are inclined to shrug it off with "Well, why don't they do something about it?" But the dust storms and the New York water shortage were different. They were something new, and although not strictly comparable, each was dramatic, each was given wide publicity, and each had to do with the water supply.

The dust storms were fundamentally the result of poor land use. Encouraged by a cycle of relatively wet years and wartime prices, speculators who came to be known as "suitcase farmers," because they did not establish residence, plowed millions of acres of prairie sod and planted wheat. Then came a cycle of low rainfall. Seed lay in the ground unsprouted and with no protection in or on the soil, high winds simply blew it away—which seems to support the judgment of the Oklahoma Indian who took first prize for the best story told by two pictures—a dilapidated house and a badly washed field.

"Both pictures show white man crazy. Make big tepee, plow field. Water wash. Wind blow soil, grass all gone. Squaw gone, papoose too. No chuck-away. No pig, no corn, no hay, no cow, no pony. Indian no plow land. Keep grass. Buffalo eat. Indian eat buffalo, hide make tepee, moccasins too. Indian no make terrace. No build dam. No give damn. All time eat. No hunt job. No hitchhike. No ask relief. No shoot pig. Great Spirit make grass. Indian no waste anything. Indian no work. White man heap crazy."

In the New York water shortage, the immediate cause is again a period of less than normal rainfall. But back of that is a large city in a country where waste is a national characteristic and where conservation measures are seldom adopted until forced on us by catastrophe. We see water consumption figures running into meaningless millions; we hear of shaveless Tuesdays and bathless Thursdays; and we read of accusations of this or that official who is blamed. But back of all is the reluctance of elected representatives to spend money for non-vote-getting activities: That and the incredible quantities of water required to satisfy a large city.

Nor is it necessary to go to New York. Time and again summer finds many Virginia cities on short

rations. No water for lawns and gardens, for car washing, or to sprinkle the street. What is the answer? Larger supplies? Less waste? Or both?

For most of us, obtaining water is a simple matter. We turn the faucet and there it is—clear, pure water. But to the manager of the water department it is less simple. He knows that beyond that faucet is a service line, a water main, a reservoir or stream, and ultimately thousands of springs and rivulets that must be fed regularly if the householder is to have water always on tap.

Going back to news-making New York: it seems only a few years since newspapers and magazines were full of stories of prodigious engineering feats by which pure mountain water was being brought to the spigots of Manhattan—the great dam and reservoir in the Catskills, the giant aqueduct, tunnels through mountains, a siphon under the Hudson, terminal reservoirs with their treating plants, and finally a distribution system to stagger the imagination. It was thought then that New York's water supply was safe for the foreseeable future. Yet the winter of 1949-50 sees famine that makes news all over the country.

Can it be that our plans overemphasize engineering to the neglect of natural forces? Do we put too much dependence on man-made reservoirs and too little on those provided by nature?

The amount of rain that falls on a given watershed is (barring rain-makers) beyond our control. But what we do with it once it has fallen, is largely up to us. Dams and reservoirs have a place, but it is the water which passes into underground storage which maintains flow in those thousands of springs and rivulets. And a well managed forest puts more water into underground storage than any other cover.

Practically every city, town and village in the Shenandoah Valley between Strasburg and Lexington is dependent on watersheds within the George Washington National Forest for domestic water. Reservoirs from which Woodstock, Harrisonburg, Staunton, Clifton Forge and Lynchburg get their supplies are located within the same forest, and plans are now being developed for a similar service to Stuarts Draft and nearby rural areas. Compared with that water, all of the lumber that has been, or is apt to be taken out, is of minor importance.

To insure that water is of the best, no camping is authorized above these reservoirs. Special sanitary measures are required in connection with all uses, and when timber sales are made, logging methods which might encourage erosion are prohibited. Good water management is accorded highest priority throughout all of those areas.

Let's take a moment to trace the water cycle, starting with vapor in the atmosphere. Slightly cooled, that vapor becomes tiny droplets which we see as clouds. Cooled still further, these droplets form into raindrops or snowflakes and fall to earth. Here some of the moisture is retained on the surface it strikes

and returned to the air through evaporation.

A larger portion starts on its way to the sea as run-off. Dams and reservoirs retard some of this and divert it to a variety of uses, but eventually that too returns to the air by way of plants, domestic and industrial use, or by rejoining the river and moving on to the sea, where evaporation is always at work.

The most useful portion, however, is that which is absorbed into the soil. From here, some is taken up by growing plants and returned to the air through transpiration. The remainder percolates into underground storage to feed springs and wells, grow crops and be useful generally.

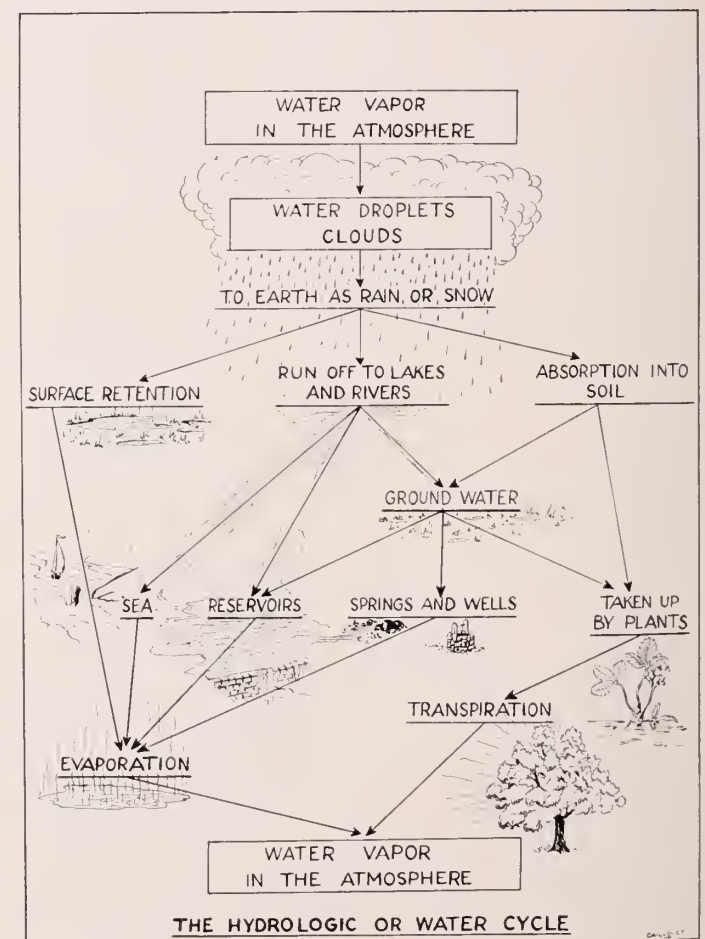
In all cases, the moisture that fell from the sky sooner or later finds its way back into the atmosphere, completing the cycle.

Now where does this lead us in the consideration of water as a forest product?

First: It is axiomatic that water—pure, clean water and plenty of it—is essential to our standard of living.

Second: Water in large quantities and of a high degree of purity, is essential to many industries. More industries seeking a Virginia location are turned away because of a lack of suitable water than for any other reason.

**The hydrologic or water cycle is but another illustration of nature's constant balance. From the water vapor in the atmosphere to the ground and back again; a simple process and yet a vital one to all forms of life.**







Henry S. Mosby.

**Mountain streams carry the run-off to the sea, but the water that is most useful is that which remains in the soil.**

Third: Ground water, represented to most of us by the height of the water table, plays a more important part in maintaining water supplies than any other form of storage.

Fourth: The forest, with its carpet of dead leaves, is the most effective agency for putting water into the ground. A good sod will prevent erosion, but when it comes to putting water into the ground, the forest is in a class by itself. Tree tops break the force of the falling rain so that it drips to the ground instead of beating down. Leaf litter acts as a million tiny dams to retard water movement. It protects the soil and keeps it loose and permeable. And by filtering out tiny dust particles, the pores in the soil are kept open for the passage of water to underground storage.

It is estimated that the water which flows from artesian wells in Iowa, fell in Minnesota between 200 and 300 years ago. In eastern Virginia there are flowing wells that have been flowing for generations. Where that water comes from or how long it has been on the way, can be little more than a guess. One



J. J. Shomon.

**Water in large quantities and of a high degree of purity is essential to many industries.**

guess is that it comes from the Blue Ridge and may have been on its way for a hundred years or more. If this is true, the over-cutting and fires that ravaged mountain forests for so many years may not yet have affected the flow of those wells, but affect them they will. Nor can we afford to wait until the wells fail, for then it will take another hundred years to restore them.

The important thing is to keep our forests in condition to put the maximum amount of water into the ground. We may never know where it comes out, and we may never know from whence comes the water we use. But if each landowner will see to it that his land, particularly his forest land, is maintained in condition to put into the ground the maximum amount of rainfall, he will have contributed to the underground water supply and hence to the amount available for use—for use by him, his family, his community and by all the communities down country from him; for use by field and forest, by fisherman and picnicker and by every living thing. *It's the water that goes into the ground that counts most.*

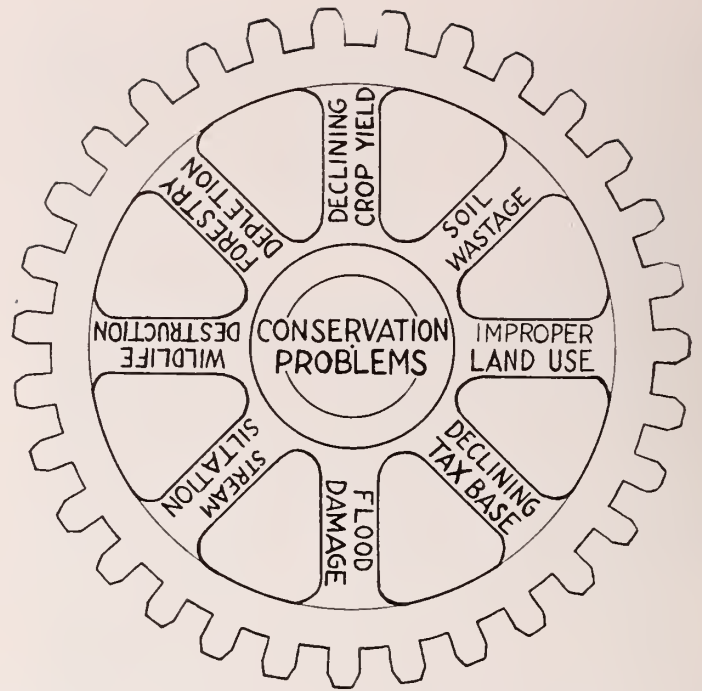
*Water is the mother of the vine,  
The nurse and fountain of fecundity,  
The adorning and refresher of the world.*

—CHAS. MACKAY.

# WHY PROPER LAND USE?

By E. W. MUNDIE

*Administrative Officer, State Soil Conservation  
Committee*



All land is capable of producing some type of crop but land like people has its limitations. The various spokes of the conservation wheel illustrate the problems facing the landowner in his choice of land use.

**E**IGHTY PERCENT of the trouble in agricultural production today lies in the selection and care of land. Here's why: all land is capable of producing some type of crop but land like people has its limitations. A man that is an excellent brick mason may be a very poor airplane mechanic. Likewise an area of land that may provide an excellent habitat for wildlife may not be capable of producing corn economically. Wildlife land is not corn land any more than a Black Angus cow is a dairy cow or a pole cat is a pet.

As the accompanying illustration shows, you can't use land incorrectly and stay on top. Here's what happens to a people and its soil when land is used for purposes for which it is not suited.

**Spoke 1. Improper Land Use.**—When land is used improperly—for purposes for which it is not suited—all conservation practices found in the books will not hold the soil and water in place.

**Spoke 2. Soil Wastage.**—When land is used improperly, soil and water wastage necessarily follow.

**Spoke 3. Declining Crop Yields.**—When fertile top soil is removed from land, a decline in crop yields follows irrespective of the other progressive steps used in crop production. With this soil and crop yield decline comes a sharp reduction in the profits derived from tilling the soil.

**Spoke 4. Forestry Depletion.**—When forests are depleted the water table is seriously affected, timber land products on which we are so dependent are destroyed and homes of wildlife are taken.

**Spoke 5. Wildlife Destruction.**—When lands are used improperly, when soils are wasted, when crop yields decline and forests are depleted, wildlife vanishes because there is not sufficient food and cover for it. Wildlife is dependent on the land for food and cover three hundred and sixty-five days of each year.

**Spoke 6. Stream Siltation.**—When soil and water slips from farms leaving unproductive land behind, the already overflowing streams become catch basins for soil which has helped to make America great. These soil losses not only leave uplands less productive, but they cause bottom lands to flood and wildlife on these lower lying areas to be destroyed.

**Spoke 7. Flood Damage.**—Where farm lands are used improperly, forests depleted and streams silted, flood damage is inevitable and without the control of this soil movement, dams on streams are not effective in the control of floods.

Last but not least:

**Spoke 8. Declining Taxbase.**—Poor land makes poor people. When crop yields decline, when forests are depleted and when wildlife is destroyed, schools, churches, banks and other public institutions do not prosper. Thus the prosperity of a community, of a state and of a nation is dependent on the care and management of soils, and a community, state or nation is no more secure than the program of land use on which it depends. The ills caused by improper use of land are corrected by proper planning for soil and water conservation.

An effective soil and water conservation program begins with the selection of land according to its abilities to produce. Therefore, the first job in planning for conservation of soil and water on an individual farm is to make a soil inventory. The next job is to classify the soils according to their abilities to produce. When soils on most Virginia farms are properly classified, there usually are found acreages that are suitable





SCS Photo.

**Where farm lands are used improperly, forests depleted and streams silted, flood damage is inevitable.**



SCS Photo

**Thousands of Virginia acres that once were idle and in many instances sub-marginal have been converted to farm ponds.**

for field crop production, other acreages not suited for crop production but well suited for the production of pasture, still other acreages that yield their greatest economic return when properly managed as woodland, and a fourth group of soils that are not particularly well suited for any of the first three uses but are well qualified, when properly treated, to provide food and cover for wildlife.

Farming is a profitable business when land is used for the purposes for which it is suited. In a few exceptional cases, profits for short periods of time may be derived from land that is not farmed the conservation way, but in an enduring and permanent agriculture, a sound program of land use is a must. No sacrifice of acreage is made in achieving a sound land use program. In fact, one of the planned objectives of such a program is to put each acre to a profitable use. For example, thousands of Virginia acres that once were idle and in many instances submarginal have been converted to farm ponds. As a result of these land use changes, large acreages can now be used as pasture that were without water for livestock before the ponds were built. Previously, the land could not be used as pasture, or if used for these purposes, water had to be hauled to the animals during several months of the grazing period.

Ponds on these heretofore submarginal acres not only serve for stockwatering, but when located near farm buildings they supply a source of water for fire protection. They likewise provide recreation for the farm family in the form of boating, swimming, skating and duck shooting and when stocked with fish they furnish in addition to recreation, large amounts of food.

Some of the other areas of submarginal and unproductive land that are found on many farms are represented in the 15 to 50 feet of space between the open land and woods. These areas can be made productive by preparing and planting them to crops that furnish food and cover for wildlife such as bicolor and sericea lespedezas. By seeding these areas and using them for the production of wildlife food and cover, land that cannot be profitably cultivated is removed from cultivation. In addition, sericea lespedeza plantings serve as a turn row for farm implements and as a road for use in harvesting field crops.

The above examples show how unprofitable acres through proper land use planning may contribute to a satisfying and profitable agriculture. Many other similar examples might be given that show that proper land use planning makes each acre of the farm a tax paying acre. No landowner can afford to use his land improperly. Good land use is simply good farming.

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*It is this earth that, like a kind mother, receives us at our birth, and sustains us when born; it is this alone of all the elements around us, that is never found an enemy to man.*

—PLINY.





NPS Photo.

Unlike the whitetail deer, the elk requires a habitat containing open grazing areas.

# Virginia's Elk Herds

By **RICHARD H. CROSS, JR.**  
*District Game Biologist*

**W**ITH THE EXCEPTION of local residents in Giles, Bland and Botetourt counties, Virginia's elk herds are little known and their existence is usually a surprise to most of our sportsmen and others. In spite of this fact, the elk or wapiti was legally hunted from 1922 until 1944 in the Old Dominion.

Formerly, the elk was common throughout most of Virginia but more abundant in the mountainous sections. According to a thesis by Roy K. Wood, the last native animals were killed in Clarke County. Colonel Gos Tuley bagged two elk in this area during the years 1854 and 1855 and these specimens are now preserved in the Smithsonian Institution. For the following 62 years the species remained extinct in the State, but in 1917 the animal was reintroduced by the Commission of Game and Inland Fisheries. From a surplus stock in the Yellowstone National Park, the Commission secured somewhere between 140 and 150 elk which were released in Cumberland, Giles, Montgomery, Pulaski, Roanoke, Russell, Princess Anne, Warren, Botetourt and Washington counties. Of the original number, 25 or 30 died in transit, or shortly after release. By 1926, the animals had disappeared from all of the release areas except those in Botetourt, Giles and Bland counties, and these elk were supplemented in 1935 by the restocking of 43 additional animals, six of which went to Botetourt.

Incomplete records indicate that approximately 87 elk were killed during the open hunting seasons between 1922 and 1943. In 1944, a three-day open season was declared on both sexes on the Giles-Bland range and approximately 70 animals were removed from that area in the single hunting season. This drastic reduction resulted from numerous complaints of crop damage in the vicinity of the elk range, which covers about 40,000 acres in the two counties. However, these crop damage complaints were certainly nothing new. Wood states that "in the second annual report of the Commission of Game and Inland Fisheries, (June 30, 1918) the administration seriously questioned the wisdom of encouraging the establishment of this large species of game in an agricultural state such as Virginia. Complaints were continually reaching the Commission of the depredations to crops; claims were made for reimbursement which the Commission was not authorized to make." Thus, as a means of decreasing the amount of crop damage, the first hunting season was declared by the Commission in 1922. In spite of this action game authorities have been troubled by similar elk problems up to the present date.

The elk is the largest game animal in Virginia. Its closest kin, the whitetail deer seldom reaches a weight of 200 pounds while it is not uncommon to find bull elk weighing between 700 and 800 pounds. In color, the elk is brownish gray on the sides with dark brown





Commission Photo by L. G. Kesteloo.

**Elk tracks in soft ground. The author points out the indentations made by a bull in Virginia's elk country.**

head and legs and a dark brown stripe down the back. A characteristic buffy white rump patch may be seen at great distances. The antlers are extremely large with a spread of three to four feet and individual beams measuring three to five feet in length. Six points per antler beam is usually considered a full head.

These antlers are the principal weapons of the bull elk and during the rutting season fierce battles are fought between various bulls to determine who shall rule in a certain area. Unlike the whitetail who is a relatively silent deer, the bull elk challenge each other to fight by "bugling" their defiance in ringing tones. Large herds of cows are accumulated by the victorious bulls and a successful bull may hold sway over a harem of 40 to 50 females. Occasionally an elk battle may end in death for both of the contestants if the antler tines become entwined so that the animals are locked together. When this occurs the bulls are unable to feed and starve to death eventually.

The tremendous antler racks are shed following the rutting season, and during the winter months the bulls can be told from the cows only by their much larger size. During this period of the year the bulls seem to realize that they have shed their armament because they become quite docile and lose their fighting instinct.

The antlers start to sprout again sometime between the middle of March and the first week in April and grow up to a foot a month in length. Like all members of the deer family the antlers are carried in the velvet during this growing period and they are quite sensitive and easily bruised or hurt.

Elk do not reproduce as fast as whitetail deer. While the whitetail usually has two fawns every other year with triplets occurring occasionally, the elk generally produces but one fawn with multiple births



**Bull elk of 700 or 800 pounds are not uncommon. Antlers may have a spread of 3 to 4 feet.**

being rather unusual.

The fawns are born in May or early June and are spotted as are the fawns of the whitetail. The spotted coat is shed in the fall and the brown of the winter coat then comes in.

Due to its range requirements and food habits, we may never expect the elk to become abundant in the state. While the deer depends upon browse for the major portion of its food, the elk must have a sufficient amount of grazing area. Since our mountainous sections, particularly the national forests, are mostly wooded, the animals are forced to inhabit the farm lands in order to find the grass which is a necessary part of their diet. Consequently, there is a very definite limit to the number of elk we might expect our farmers to support, especially when it involves sacrificing feed produced for domestic livestock.

At the present time the elk herd in Botetourt County appears to remain static. National Park Service officials frequently observe the animals along the Sky-line Drive in the vicinity of the old Hotel Mons near the Peaks of Otter and they have estimated the herd to contain between 30 to 40 animals. Due to the comparatively low breeding potential it is evident that the average annual increase is being equalled by the usual annual losses. The latter may be attributed chiefly to accidents and poaching. During March of 1950, game manager Sam Williamson found a seven-point bull on the headwaters of McFalls Creek in Botetourt county. This animal was obviously shot by a poacher.

The elk inhabiting the range in Giles and Bland counties have a brighter future, but one which will be comparatively short-lived. During the late war this entire area was clear-cut and the timber operations were followed by several large fires which burned

(Continued on page 22)



*How well do you know*

# YOUR VIRGINIA BASS?

By DEAN A. ROSEBERY  
*Assistant Chief, Fish Division*

*Perhaps that largemouth you caught last summer  
wasn't a largemouth after all. Here's some facts  
on the bass family that may surprise you.*

**L**AST SUMMER a puzzled game club president called me into his kitchen to identify some fish. Ed thought he had two prize smallmouth bass, since their jaws were like a smallmouth's, but his friends insisted that the plump fellows were largemouths because of their coloring. Ed actually had two perfect specimens of the spotted bass.

In 1948-50, while in charge of the Claytor Lake Fish Survey in Pulaski County, I frequently heard the question: what is this fish you call a spotted bass? Is it a largemouth or a smallmouth? The answer is, of course, that the spotted bass is a separate species of fish just as the largemouth black bass, the smallmouth black bass, the walleye, and the bluegill are distinct species. The accompanying photographs depict the three species of black bass in Virginia. Fishermen would do well to look over these specimens before making any bets, because an angler from Salem confessed to me this spring that he had been catching the spotted bass in the New River for 20 years, but to him they've always been smallmouths.

Other states have their identification problems too. For years fishermen have been trying to get credit for prize smallmouths caught in Florida. But the "fish boys" have proved every time that the big fellows were not smallmouth bass. *In fact, they have yet to find a true smallmouth in Florida.* Most of them usually

\*John F. Dequene. "Is the Florida Smallmouth a Fable?" *Florida Wildlife*, September, 1949.

**The smallmouth bass' upper jaw does not extend past the eye, has prominent dark vertical bars along the side, and small scales.**



Commission Photo by L. G. Kesteloo.

turn out to be the Florida largemouth. Mr. John F. Dequene, Chief Fisheries Biologist of the Florida Game Commission, in a recent article\*, questioning the existence of the Florida smallmouth, made a number of drawings to differentiate the various species of black bass in his state. He has graciously consented to loan them to the writer for this article. Four of the species illustrated by Dequene are found in Florida and the fifth species, the Northern smallmouth bass, was described by him only for comparative purposes.

It is understandable why Virginia anglers have difficulty with the three species of black bass found within the Commonwealth, since authorities on fish identification had not clarified the separation until recently. Dr. Carl L. Hubbs and Dr. Reeve M. Bailey of the University of Michigan are the two most prominent specialists on black bass identification. They have described the species in "A Revision of the Black Bases (*Micropterus* and *Huro*) with Descriptions of Four New Forms" (1940). Dr. Hubbs reported having collected largemouth, smallmouth and the spotted bass in the New River close to the Virginia-West Virginia border.

The old convenient device for separating the black basses was to examine the length of the upper jaw, a method still valuable even when the spotted bass is included. Since we have only the three species in Virginia, the largemouth can usually be differentiated from the other two species by the long upper jaw that extends beyond the eye. The upper jaws of the small-

**The largemouth bass has an upper jaw that extends past the eye, has a divided dorsal fin, and a broad dark longitudinal stripe down each side.**





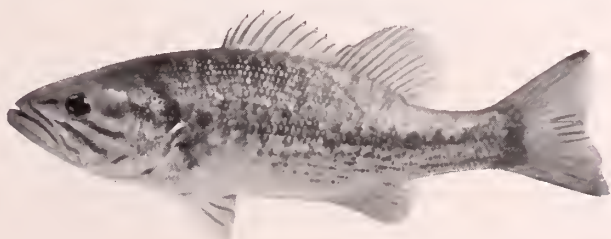
mouth and spotted bass are short and do not extend past the eye. Furthermore, the dorsal fins are separate only in the largemouth.

Another distinguishing feature of the three Virginia fish is coloration, the smallmouth usually having prominent dark vertical bars, while the largemouth and spotted bass have a prominent dark longitudinal stripe along the midline of the side. It is the presence of this longitudinal stripe on both species that leads to great confusion among anglers. In addition, however, the spotted bass always has prominent horizontal rows of dots along the lower parts of the sides, which do not appear on the largemouth. Another convenient characteristic by which to identify the spotted bass is a pronounced rough spot on the tongue, a spot which will usually be more than an eighth of an inch long for a ten-inch specimen.

In spite of the fact that all three species may exist in the same body of water, each has its habitat preference. The smallmouth is at home in the rough waters of swift mountain rivers; however, they thrive in the rough sections of the James as far downstream as Richmond. They are also well adapted to large lakes at higher altitudes. The largemouth, on the other hand, takes to ponds and lakes and the quiet rivers of the Piedmont and Coastal plains. In their habitat requirements the spotted bass might be classified between the other two species, for they do not like the turbulent waters which make a good smallmouth stream, nor do they enjoy the placid lakes that are popular with the largemouth. The spotted bass is a stream fish which is usually found in rivers with a moderately rapid flow. As far as we know, the New River system of Southwest Virginia has yielded the only spotted bass found in the state, and here they are quite common.

It has been observed on Tennessee Valley Authority reservoirs that the growth rates of the spotted and smallmouth bass were comparable, but slower than for the largemouth. Most fishermen are well aware of the so-called maximum sizes of the smallmouth and largemouth, but the tall tales for the spotted have failed to become common knowledge. The largest spotted bass taken in Claytor Lake measured 22 inches,

**The spotted bass' upper jaw does not extend past the eye, has a dark longitudinal stripe down each side, horizontal rows of dots along the lower part of each side and a rough spot on the tongue.**



Commission Photo by L. G. Kesteloo.



Commission Photo by L. G. Kesteloo.

**The rough dark spot on the tongue is a good characteristic of the spotted bass.**

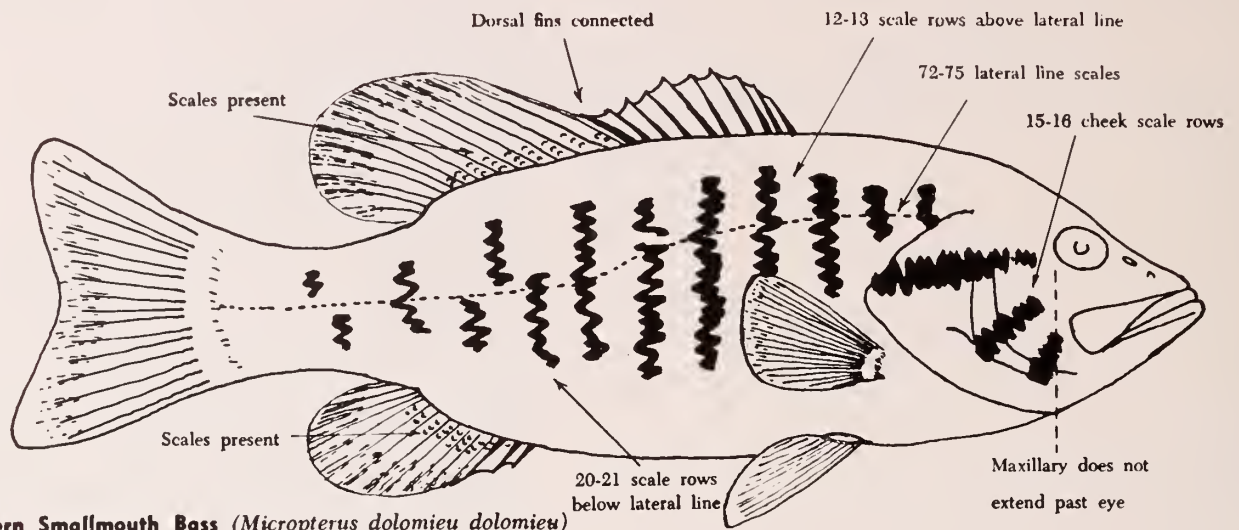
but as a rule 15 to 16 inches may be considered a good sized specimen.

There are other methods for differentiating each of the species when arguments get hot or after the color of the fish fades. The number of scales on the cheek, the number along the lateral line, and the number above and below the lateral line frequently overlap for each of the species, but still the combination of these scale counts is quite dependable. The smallmouth and spotted bass may also be separated from the largemouth by the presence of small scales embedded at the base of the dorsal and anal fins in the first two species.

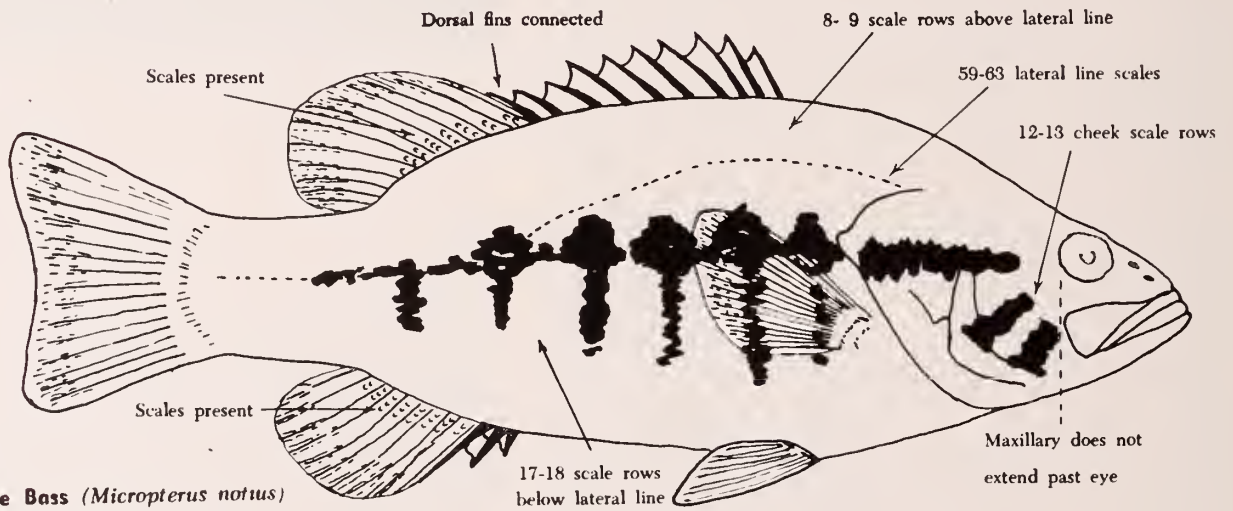
The accompanying photographs show the color markings of the three species of bass: the smallmouth with its vertical bars and prominent cheek stripes; the largemouth with a dark longitudinal stripe down each side and the spotted with the horizontal rows of dots along the lower part of each side. One photograph shows the rough spot that is usually found on the tongue of the spotted bass.

It is best that the accompanying drawings be referred to for observing the relative position of the upper jaw to the eye of the bass species discussed. The upper jaw of the smallmouth and spotted bass does not extend past the eye whereas the jaw of the largemouth does.

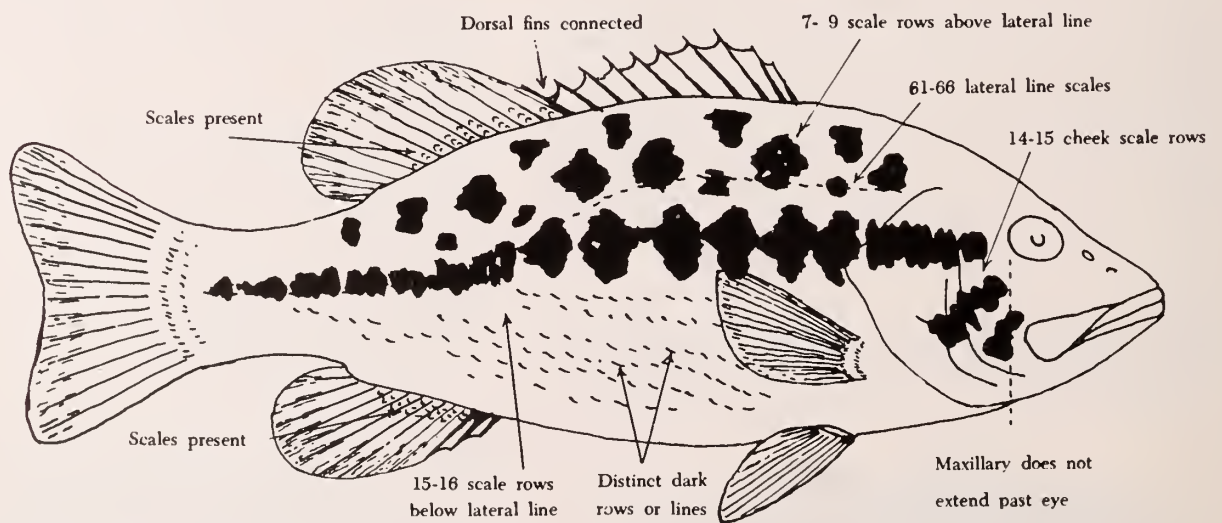
Bass fishermen might profit well to study all the photographs and drawings depicted here in detail before trying their luck on June 20. It should prove helpful in more ways than one.



**Northern Smallmouth Bass** (*Micropterus dolomieu dolomieu*)



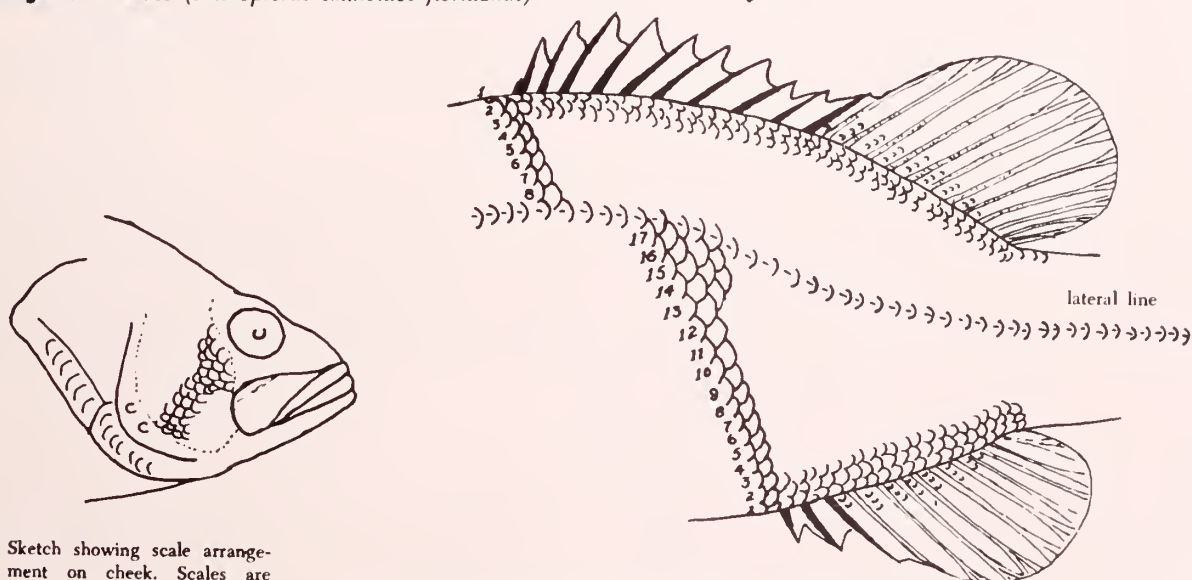
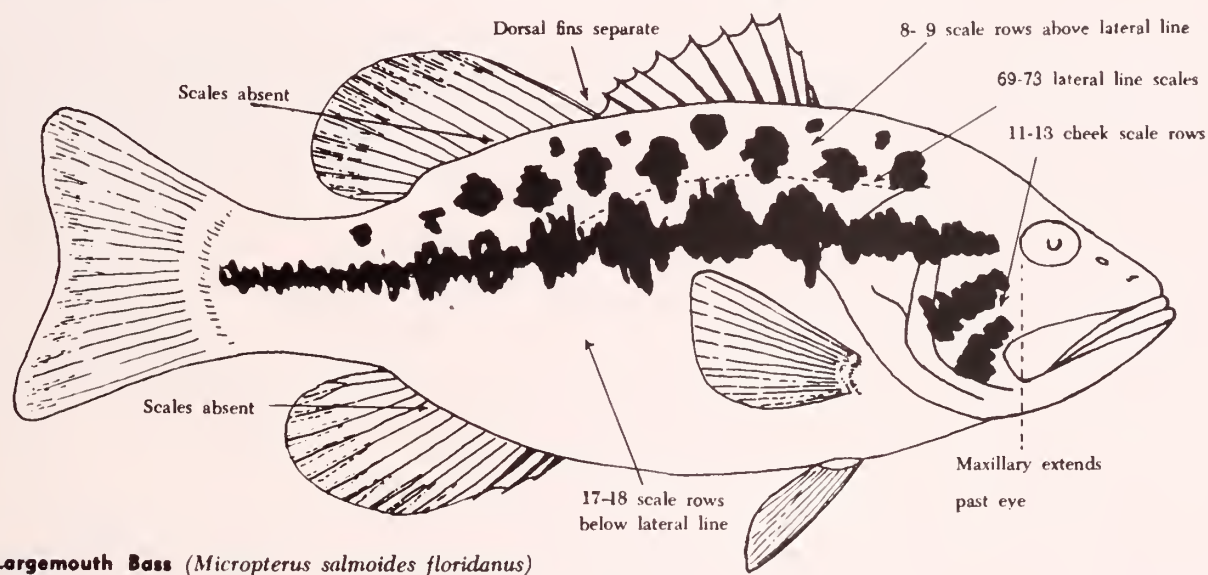
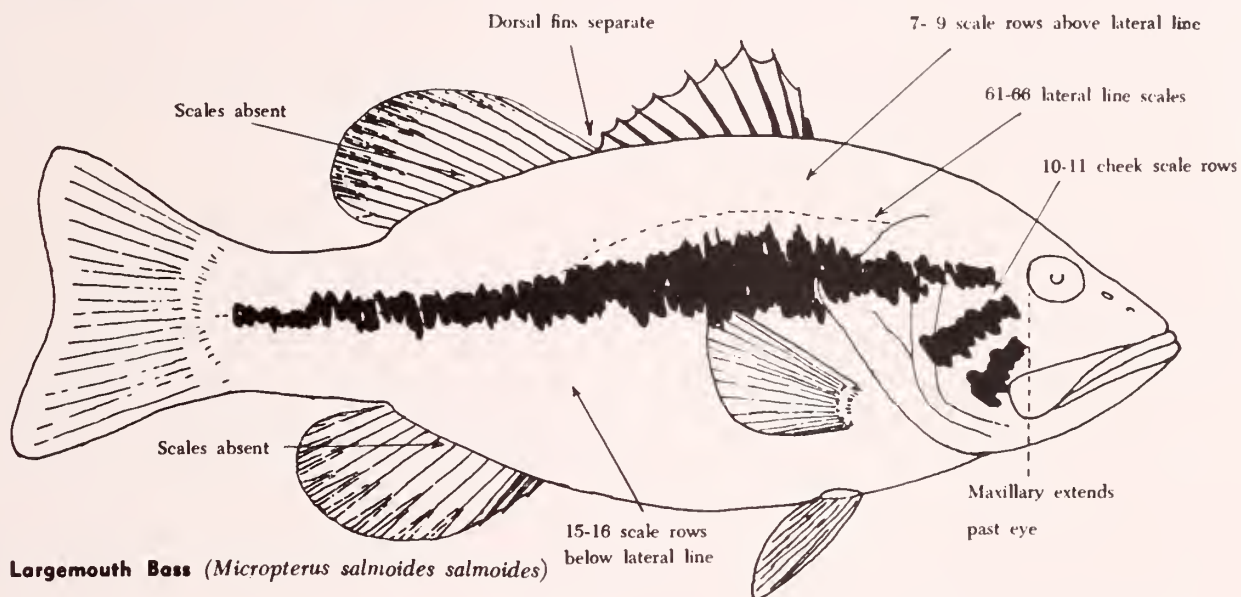
**Suwannee Bass** (*Micropterus notus*)



**Spotted or Kentucky Bass** (*Micropterus punctulatus punctulatus*)

John F. Dequine





**Figure 1.** Sketch showing scale arrangement on cheek. Scales are counted in straight line from eye to lower left corner of cheek. Eleven rows here.

**Figure 2.** Sketch showing fin connection and position of scales on fins in smallmouth group, and method of counting scales above and below lateral line. Drawn from a specimen of the Suwannee Bass.

# CONSERVATIONGRAM

Late Wildlife News . . . At A Glance

THE THIRD ANNUAL Wildlife Essay Contest conducted in the Virginia schools by the Game Commission in conjunction with the Virginia Division of the Izaak Walton League, was the most successful contest yet, in the opinion of prominent conservation men in the State.

Thousands of entries were received at the Commission offices in Richmond, and judging was extremely difficult. \$960 in cash prizes were awarded to 56 prize winners throughout the state. In addition, a school prize of \$40 went to Columbia District School in Fluvanna county, as the school with the highest percentage of entries in the contest, making a total of \$1,000 in prize money awarded.

Eight \$50 first prize winners were brought to Richmond as guests of the Commission and received their awards from Governor Battle in ceremonies at the State Capitol.

Following the ceremonies a guided tour of Richmond was arranged for the winners followed by a luncheon at the Hotel Rueger and a showing of the Commission's film "Operations Wildlife."

A complete listing of the prize-winners follows:

*Grand prize winners* (\$50): 12th grade, Tinsley Crowder, Kenbridge High, Kenbridge; 11th grade, James G. Anderson, Graham High, Bluefield; 10th grade, Nellie Watson Finch, Concord High, Concord Depot; 9th grade, Dot Carwile, Bedford High, Bedford; 8th grade, Delena Kay Surratt, Sylvatus High, Sylvatus; 7th grade, James Mason, Washington & Lee School, Montross; 6th grade, Shirley Ann Stanley, Wilson-Jackson, Waynesboro; 5th grade, Allen Dahl, Farmville High, Farmville.

*Second prize winners* (\$25): 12th grade, Ernest Helfenstein III, Episcopal High, Alexandria; 11th grade, Larry Twiford, Oecoquan District High, Oecoquan; 10th grade, Barbara Mallory, I. C. Noreom High, Portsmouth; 9th grade, Tucky Lewis, James Monroe High, Fredericksburg; 8th grade, Peggy Ferguson, Warwick High, Morrison; 7th grade, Nancy Snoddy, Columbia District School, Wilmington; 6th grade, Sylvia Dameron, Stonewall Jackson, Danville; 5th grade, Jean Helms, Bennett School, Manassas.

*Third prize winners* (\$15): 12th grade, Rudolph V. Garland, Huntington High, Newport News; 11th grade, Alta Lee Sexton, Elk Creek High, Elk Creek; 10th grade, Emojeana Womeldorf, Fairfield High, Fairfield; 9th grade, Mary Jo Grubaeh, St. Paul's High, Portsmouth; 8th grade, Harrison Braxton, Chase City High, Chase City; 7th grade, Caroline Carr, Lee School, Alexandria; 6th grade, Gordon Barker, Dahlgren School, Dahlgren; 5th grade, Nancy Kate Givens, Newport High, Newport.

*Ten-dollar awards* went to: 12th grade, Barbara Lee Winn, Axton High, Axton, and Laura Wright, Warren County High, Front Royal; 11th grade, Jean Drumheller, R. E. Lee High, Staunton, and Robert H. Giles, Jr., E. C. Glass High, Lynchburg; 10th grade, Carolyn Tenney, Washington & Lee High, Arlington, and Millard Cox, Spotsylvania High, Spotsylvania; 9th grade, Jesse Carroll Greene, Jr., Powhatan High, Powhatan, and Edna Hall, Battlefield Park High, Ellerson; 8th grade, Virginia Dare Chisholm, Montpelier High, Beaverdam, and Betty Jane Goff, Big Island High, Big Island; 7th grade, Buddy Wakin, Southview School, Roanoke, and Watts Childress, Glade Hill School, Glade Hill; 6th grade, Edith E. Lee, Quantico Post School, Quantico, and Marilyn Sue Sykes, Garden High, Oakwood; 5th grade, Peggy L. Warren, Ridgeway High, Ridgeway, and Maxine Jennings, North Staunton, Nathalie.

*Five-dollar winners* are: 12th grade, Ralph V. Green, Brosville High, Danville, and Hoston Allen, Blue Ridge High, Blue Ridge; 11th grade, Kenneth Haga, Dublin High, Dublin, and Betty Jane Knight, Farmville High, Farmville; 10th grade, Glenn McClanan, Kempsville High, Princess Anne, and Elbert Holder, Victoria High, Victoria; 9th grade, Betty Jean Garwood, Greenwood High, Greenwood, and Denny Graham Rowe, Poquoson High, Poquoson; 8th grade, Hendricks Seward, Surry High, Surry, and Josephine Wallace, St. Mary's Academy, Norfolk; 7th grade, Nancy Mallory, Colonial Heights School, Colonial Heights, and Beverly Rosenbaum, Bolling Jr. High, Petersburg; 6th grade, Mary Rogers Burruss, Jarratt High, Jarratt, and Dorothy Carol Sutherland, Collegiate School for Girls, Richmond; 5th grade, Peggy Anne Cash, Pary-McClur High, Buena Vista, and Jane Ann Bode, Noble-Pride School, Chincoteague.

Commission personnel and Izaak Walton League officials are already arranging details for next year's contest.

CHESTER F. PHELPS, Chief of the Commission's Game Division has good news for the turkey hunters this year. According to Mr. Phelps, if everything continues as well as it has been going, turkey production will be boosted about 25 per cent this year. That means that the number of turkeys raised at the Cumberland Game Farm should amount to around 1,500 birds barring accidents and unforeseen circumstances.

The Virginia system of propagating wild turkeys is unique in the country. Turkey hens, from the previous year's production, are taken to fenced-in enclosures in various areas where native wild gobblers are known to frequent. Here they mate with the wild gobblers that enter the pens through an ingenious system of gates which provides easy access for the strutting toms on the outside, but through which the hens cannot escape.





Commission Photo by J. J. Shomon.

The beagle is a merry little hound . . . the delight of rabbit hunters.

## *Field Trials*—A Fast Growing Outdoor Sport

By WILLIAM F. BROWN  
 Editor, *The American Field*  
 (Special article for VIRGINIA WILDLIFE)

**F**IELD TRIALS for sporting dogs are frequently described as the fastest growing outdoor recreational activity in America. And the story of the growth of this fascinating pastime is one of the brightest chapters in the colorful history of American sports.

The first field trial was held a little more than 75 years ago—in October, 1874, to be exact—thus the sport, in a competitive sense, is not nearly so old as some other recreational activities, but during the course of the three-quarters of a century that sports-folk have engaged in clean bird dog competition, the pastime has afforded its enthusiastic followers numberless thrills as well as serving as a basis for the improvement of practical hunting dogs.

It used to be that field trials were for a relatively small group, the game more or less a mystery to millions of hunters. That's no longer true. Nearly everybody at all interested in the out-of-doors now knows what a field trial is, and the many beneficial aspects of the pastime for the conservation and restoration of wildlife resources.

Succinctly, a field trial is a sporting dog com-

petition under actual or simulated hunting conditions, staged in a formal manner, with particular rules and standards governing the tests. Stated in the simplest of terms, it is a test of gun dogs in the hunting field. Through this form of competition, sporting dog breeders and owners endeavor to seek out the best performers in the land.

Field trials fall into several categories:

1. **POINTING DOG TRIALS**—for the breeds that find and point game; namely, Pointers, English Setters, Irish Setters, Gordon Setters, German Shorthairs, Brittany Spaniels and Weimaraners, to enumerate the principal breeds that compete in American pointing dog field trials. Upland game birds are hunted in these competitions; occasionally, woodcock are also found and pointed. The upland feathered favorites include bob-white quail, ring-necked pheasant, ruffed grouse, prairie chicken (pinnated grouse and sharp-tailed grouse), Hungarian partridge and Chukar partridge.

2. **BEAGLE TRIALS**—for the merry little hounds that are the delight of rabbit hunters. In beagle trials,





Fox hounds are the pride of many Virginia hunters.



Mr. S. P. Goodloe, Mrs. John Welch, and Mr. Charles D. Andrews follow the trials in the traditional manner.



Breaking with tradition, these sportsmen follow the trials by jeep.

Commission Photos by Crowford.

there are 13-inch and 15-inch classifications.

3. RETRIEVER TRIALS—which as the name implies are for the recognized Retriever breeds, specifically Labradors, Chesapeake Bay Dogs, Golden Retrievers, Irish Water Spaniels, Flat-Coated Retrievers and Curly-Coated Retrievers. Both land and water work are required in the tests.

4. SPANIEL TRIALS—mainly for Springer Spaniels and Cocker Spaniels, because the other breeds of field Spaniels, while known in this country, have rarely appeared in competitive meets. Chiefly land work, but also water tests.

5. HOUND TRIALS—for various hound classifications other than Beagles: Fox hounds, Bassets, coon dogs, et al. Fox hound trials have long been popular and are spectacular.

Because the events for pointing dogs not only antedate all other forms of sporting dog competitions, but are of profound significance in the perpetuation of upland game resources, this particular phase of the field trial game will be considered.

The initial grand field trial in the United States was held near Memphis, Tennessee, on October 8, 1874, sponsored by the Tennessee State Sportsmen's Association. Nine dogs competed and a black setter called Knight, owned by H. C. Pritchett, was declared the winner. Judging was based on a scale of points, rated:

- Nose, 30
- Pace and style, 20
- Breaking, 20
- Pointing style and staunchness, 15
- Backing, 10
- Roading, 5

Under this system, the point total reached 100. Knight tallied 88 points. But the point system of scoring did not prevail for long. It was replaced by the "Spotting System," which is still used. This means the judges weigh the actual work of all the dogs in a stake, each against the balance of the entire field.

There are definite minimum requirements for recognized field trials, promulgated by the AMERICAN FIELD of Chicago, Ill., the Amateur Field Trial Clubs of America, and the *Field Dog Stud Book*, authentic all-breed canine registry. Wins in trials are not entered in the official records unless the particular trial in which the win is made conforms to the conditions prescribed, which define the stakes for Puppies, Derbies and All-Age dogs. Winners' Stakes and Championships, both Open and Amateur, are run. In fact, during 1949 there were 431 recognized trials, more than 1300 individual stakes and in excess of 20,000 dogs starting in the various events offered.

A great deal of time, study, care and money goes into the breeding of field trial dogs. Intelligent breeders seek out not only fashionably bred sires and dams, but individuals of prepotent bloodlines that have the qualifications to advance breed standards.

Field trials are held in all parts of the country—



from the prairie provinces of Canada to the savannahs of the South, from Maine's rock-ribbed coast to the sunny slopes of California. Virginia can boast its own important trials. Indeed, the Virginia Amateur Field Trial Association ranks as one of the better known bird dog organizations in the United States with a background of a third of a century in promoting high-class programs.

The Amateur Field Trial Clubs of America, parent organization of member clubs with a roster of as high as 177 different associations, sanctions all Amateur Championship events, which consist principally of two national meets—the National Amateur Quail Championship and the National Amateur Pheasant Championship—and ten Regional Amateur Championships which are staged in various sections of the country.

Perhaps the No. 1 event in the bird dog realm is the National Championship over historic Ames Plantation near Grand Junction, Tennessee. Only dogs which have won a first place in a public trial, recognized by the AMERICAN FIELD, in which the heats were of one hour duration or longer, are eligible to compete in the bob-white classic at Grand Junction. The National Championship has been in existence since 1896. The stake has been decided 52 times and it may be remarked that 22 Pointers have won the title 29 times; 20 English Setters have won the National 23 times. Three Pointers won the National three times—Triple National Champions Mary Montrose, Becky Broom Hill and Ariel. A single English Setter—Feagin's Mohawk Pal, also won the National Championship three times.

There are other leading championships on quail, on pheasants, on ruffed grouse and on prairie chicken. It might be explained that the field trial season differs somewhat from the calendar year, for it is usual to say that the season begins in September, continues through the fall and winter, and closes in the Spring—April or May, depending on the latitudes where clubs are holding forth.

In field trials, the dogs are run in braces, two at a time, and there are usually two or three judges. The dogs are generally handled from horseback, although in grouse trials and some of the shooting dog stakes the handlers proceed afoot.

The standard of ethics for field trials is of the highest and not the slightest breath of scandal has touched bird dog competitions. This is because those vitally interested have kept the game clean. The pioneer leaders were exemplary sportsmen; they loved the bird dog game for itself and never permitted undesirable practices to creep in.

Today the aim of field trial leaders is to educate the public, and particularly all hunters, regarding the value of the bird dog sport as: 1, healthful recreation; 2, a means for conserving and restoring our upland game birds; 3, a distinct aid to the hunter in increasing his pleasures afield and extending his oppor-

(Continued on page 22)



The cast off is an exciting event in any field trial.



On point! Mr. Arnold Kedy moves in on Prince Tornado while Shore's Frank Doone honors.



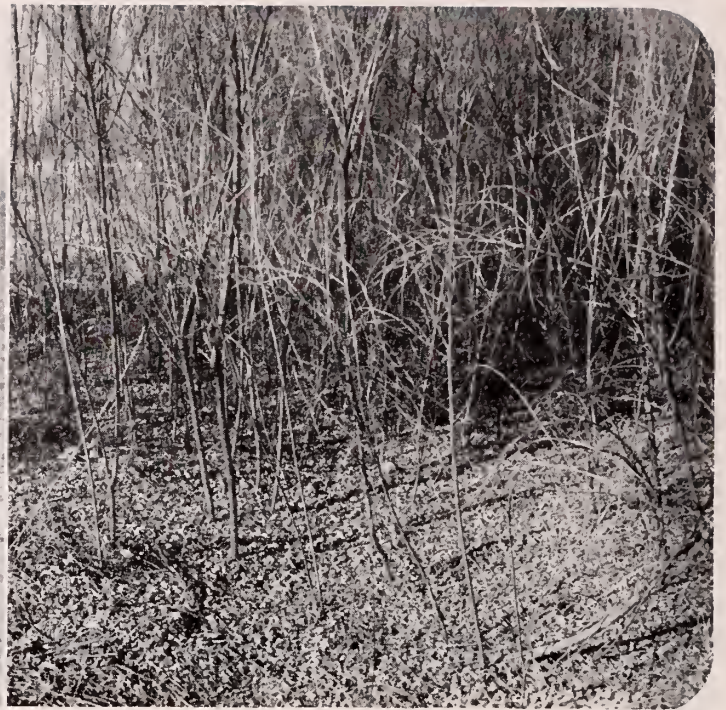
Commission Photos by Crawford.

Three Virginia prize winners pose for the camera at the 1949 Field Trials in Halifax County.





Henry S. Mosby



SCS Photo.

Habitat improvement work done primarily for game, (left above) results in cover that is beneficial to songbirds too. (Above right).

## *Helping the* Songbirds<sup>\*</sup>

By JOHN H. GWATHMEY

*Gun and Rod Editor, Richmond Times-Dispatch*

**L**OVERS OF SONGBIRDS have every reason to be interested in what the game managers are doing to perpetuate the game. Facts are that the very things which are being done to help the game birds and animals are of great benefit to songbirds. The Audubon Society and the game people have always worked hand in hand.

Too many people think of the hunter as just a ruthless killer, interested only in going out and killing a lot of game. This is far from the truth. The hunter loves his sport, of course, but the average hunter is also a naturalist and is interested in every living thing in woods and fields.

A great many people fail to realize that the hunter plays a very important part in the scheme of things. He is the harvester of the annual surplus. If the farmer continued to let his stock increase in numbers, without killing off the surplus, he would find that his cattle would soon eat themselves out of house and home. When they became too numerous, they would starve.

So if the hunter may be forgiven for doing a little killing of game, which in many cases would perish anyway, the lovers of songbirds should be greatly interested in what the hunters and their agencies are doing. In their attempts to bring back the game, they

are bringing back the songbirds also. The sportsmen furnish the money, through payment of their license fees for the privilege of hunting and fishing.

It is a recognized fact that the greatest factor in the scarcity of many types of game is the destruction of habitat. Every time you build a road or a city, and every time you send a sawmill into the woods or turn a piece of land out to pasturage, the living quarters for game are contracted. The natural surroundings in which songbirds can thrive also are contracted.

The game people realize this and are making determined efforts to restore as much of the habitat for game as possible. In doing so, they are bringing back some of the wildness of nature which has been destroyed since the white man came and since practices of modern civilization have turned the virgin forests into a land teeming with human beings.

Nobody has any dream of ever turning the country back into a wilderness. Nobody would want to do that. There will never again be as many of some species of game and songbirds as there once was. But the effort of the game people is to bring back as many as they can, and they realize that the surest way to do this is to restore as much habitat as can be restored.

The truth of it is, that we can have several times as many game birds and songbirds as we've got now, and it is worth the effort. In many of the European countries they have an abundance of wildlife, despite

<sup>\*</sup>Recent radio talk on Station WRVA, Richmond, Virginia, by the writer.





1.



2.



3.

1. A Virginia game technician looks over a lespedeza planting on a Piedmont farm.
2. Virginia's state bird, the Cardinal, is a beneficiary of habitat improvement work.
3. Woodpecker holes in dead trees often furnish nesting sites for other birds.

Photos by CGIF and National Audubon Society.



Commission Photo by L. G. Kesteloo.

**Maintaining feeding boxes in bad weather is an invaluable aid to feathered wildlife.**

the dense human populations. The reason for it is that they have always considered the wild creatures and have seen to it that food and cover was provided. Game of one sort or another is abundant in England and France.

The game people believe that a lot of game can be restored in this country by making a widespread effort to bring back the game. They know that it is impossible to bring back the game except where they can restore the food, cover and breeding places. Thus, they are making an all-out effort to do this very thing, and it is remarkable what strides are being made.

When you see that a hollow tree is not cut down, you are protecting the nesting place for squirrels, songbirds or maybe a wood duck. When you leave a briar patch in an uncultivated corner, you are providing increased habitat for quail and rabbits. When you deliberately plant things which add food and cover, you are doing still more to increase the abundance of game and of songbirds.

Most of the songbirds have been protected from shooting by law for a long period of years. While there are some violations of these laws, there are comparatively few song and insectivorous birds killed. The shooting certainly is not the principal factor. No, the songbirds, just like the game birds, are limited in abundance by the contraction of their habitat. Whenever any little thing is done to bring back the habitat, you are bringing back the birds and adding to their overall abundance.

One should never think that the sportsmen and their agencies are not interested in the songbirds, for they are.

## VIRGINIA'S ELK HERDS

(Continued from page 11)

practically the whole range. Today the area consists of a mass of hardwood brush, smilax tangles, rhododendron, laurel, scattered clumps of white pine, and a vast network of abandoned logging roads, skid trails, and log landings. A greatly increased amount of sunlight on these open areas is encouraging the growth of grasses, and a large portion of the roads is being cultivated and planted with clover and grass; the latter work being a part of the habitat improvement program engaged in by the Commission of Game and Inland Fisheries and the U. S. Forest Service. Thus the remaining elk will be afforded ample grazing areas far from the private farm lands, but this condition will continue only as long as the timber is too small to cause damaging shade.

We all agree that the elk is certainly a grand game animal and one which is highly prized by every big game hunter. However, there still exists a definite management problem in Virginia, any solution of which will of necessity be temporary at best.

### FIELD TRIALS

(Continued from page 19)

tunities for enjoying his sport; 4, a means of improving the breeds of bird dogs.

There are so many fascinating features to field trials. Would that space were available to tell of the qualities sought in the promising prospect, to give details of campaigning, tell of the professional handlers who have contributed so much to the sport, and portray in picturesque phrases the colorful pageantry of an actual field trial. It must suffice to urge upon every reader who has not witnessed a trial to make plans now to attend one at the very first opportunity. That is the best way to find out about what the sport has to offer.

Any one who would like to have a complete history of the bird dog sport, know more of the technical details of its management, may obtain a book, "Field Trials," published by A. S. Barnes and Company of New York City and available through book stores everywhere.

### COMING NEXT MONTH

#### THE COMMISSION'S PROGRAM MOVES ON

By I. T. QUINN

#### THE FLY ROD GOES TO SEA

By WINSTON MONTAGUE

#### CAPTIVE GAME

By CHESTER F. PHELPS

Chief, Game Division

## New School of Natural Resources Formed

Word has just reached us here at VIRGINIA WILDLIFE of a significant change in the world of conservation education. Dean S. T. Dana of the University of Michigan recently announced the broadening of the University's School of Forestry and Conservation into a new School of Natural Resources effective with the academic year of 1950-51.

To all scientific personnel in the conservation field, whether their major interest be soils, water, forests, wildlife or any other natural resource, this step should be a welcome one. Most of the academic training available in the past has been on too narrow a basis; the interrelationships between the various resources has usually been touched upon but briefly or ignored completely. The result has been that when the conservationist begins his work in his chosen field, he is often totally unequipped to cope with many of the problems that require a broader viewpoint and a more general knowledge of our natural resources than he possesses.

The University of Michigan has always been a pioneer in the resource education field, having offered the first formal courses in forestry in the United States back in 1881. In pioneering once more the University states its purposes as:

1. To emphasize the University's interest in *all* natural resources as the basis of material well-being.
2. To centralize responsibility for bringing to students throughout the University information as to the importance of natural resources in local, national, and world affairs, and as to the philosophy and principles underlying their utilization and conservation.

Professional instruction will be given in forestry, wood technology, wildlife management, and fishery management. In addition, new courses and programs of a non-professional character dealing with the vital place of all natural resources (both organic and inorganic) in the nation's economic and social life will be offered in close cooperation with other units of the University. It is also planned to work with these units in helping them to incorporate in their own courses material relating to natural resources, which are of interest in one way or another to nearly every school and college on the campus.

Education in the field of conservation has made great strides in the past few years, starting more or less as a stepchild of the natural sciences and slowly maturing toward recognition for its own sake. This latest step forward by a great American University is a matter for congratulations and pride on the part of all engaged in the work of natural resource conservation. It points to an increased awareness of the importance of the field and augurs well for the future.



# Field Force Notes

## Senator Robertson Helps Open Wildlife Restoration Week

U. S. Senator A. Willis Robertson of Virginia, joined the nation's more than 20 million licensed hunters and fishermen in celebrating National Wildlife Restoration Week and asked them to sing of the glories of nature at their wildlife conservation meetings. Senator Robertson is co-author of the Pittman-Robertson Act for Federal-State cooperative game restoration and has always been a friend to wildlife work.

Prior to his Congressional service he was a member of the Virginia Commission of Game and Inland Fisheries and was active in furthering conservation work throughout the state.



In the picture above he is shown with the D. C. Keys barbershop quartet of Washington, D. C. Left to right: M. L. Mickey Beall, Vincent L. Gingerick, Jesse Nussear, Senator Robertson, and Edward R. Place of the National Wildlife Federation's Washington staff.

## Radford Izaak Walton League Offers Reward for Violator Convictions

The Radford Izaak Walton League Chapter has agreed to pay \$50 for the arrest and conviction of any persons caught dynamiting or seining fish in Laurel Creek.

A spokesman for the chapter stated that investigation by chapter members resulted in the finding of dynamite caps at the creek. The Radford Izaak Walton group has a private fishing place on property owned by David Bill on Laurel Creek near the Floyd County line.

## Forest Recreation Areas Again Open to Public

Supervisor E. M. Karger of the George Washington National Forest announced that all improved recreation areas on the forest were opened to the public as of Saturday, May 27. These included Sherando Lake, 14 miles south of Waynesboro; Elizabeth Furnace in historic Fort Valley in Shenandoah County, and Hone Quarry 18 miles west of Harrisonburg, where provision has been made for both picnicking and camping; New Market Gap, 3 miles east of New Market; Green Pastures, 8 miles east of Clifton Forge (developed for use of the colored race); North River, near the Staunton reservoir; and Shenandoah Mountain, two miles south of Reddish Knob developed for picnicking only.

Supervisor Karger stated that a small charge for use of facilities at Sherando Lake will be continued again this year on an experimental basis. The charges are as follows: *Camping* 50¢ per night or \$3.00 per week per party of six adults or fraction thereof.

*Other use* 50¢ per day per party of six adults or fraction thereof for picnicking, swimming, and or other use of facilities except camping. No charge will be made for children under 12 years of age.

The system of charging a use fee on major recreation areas was adopted last year for trial purposes on the suggestion of members of House and Senate agricultural appropriation committees who have expressed the hope that it will be continued this year. All the other camping and picnicking areas will continue to be operated on a no-charge basis.

Supervisor Karger said that the numerous requests for information about camping and picnicking that are being received daily indicates a decided increase this year in the use of the National Forest for recreation purposes.

## Pre-Season Trout Fishermen Fined in Court

Catching five trout out of season cost two Alleghany County fishermen \$18 a fish in Trial Justice Court recently.

G. W. Irvine and W. B. Irvine were each fined \$45 and "one cost." Game Warden A. G. Burns spotted the men on the bank of Smith Creek before the season opened.

G. W. Irvine was fined \$15 on each of three counts: fishing out of season for trout, fishing on national forest land without a stamp and fishing on Sunday.

W. B. Irvine was also fined \$15 on each of three charges: fishing out of season, fishing without a license and fishing on Sunday.

### **Cleveland Wildlife Association Meets**

Mr. I. T. Quinn, Executive Director of the Commission of Game and Inland Fisheries was the guest speaker at the spring meeting of the Green Spring-Cleveland Wildlife Association. He spoke on the responsibility resting on the farmer in successful small game propagation and protection moves.

Mr. Quinn was accompanied to the meeting by Mr. M. W. Kesterson, Chief of the Law Enforcement Division, J. B. West and Joe Francis, supervising wardens, Ernest F. Yeatts, Washington County game warden, and Mr. J. J. Shomon, Chief of the Education Division and Editor of VIRGINIA WILDLIFE magazine. Charles Perry, the Commission's game technician in the area, was also present.

After Mr. Quinn's speech, a short open forum was held during which the members of the association and their guests asked questions regarding hunting and fishing laws, restocking, propagation, etc. Following this, two interesting films, SPECKLED TROUT ACROSS CANADA and OPERATIONS WILDLIFE were shown.

### **Caretaker Named for Commission Pond in Virginia**

The appointment of Yancey Gordon of South Hill as caretaker of Lake Gordon in Mecklenburg Co., was recently announced by I. T. Quinn, director of the Commission of Game and Inland Fisheries.

Mr. Gordon is one of the outstanding farmers in the South Hill section and has been active in sportsmen's circles for years.

Among his new duties as caretaker will be the job of supplying boats to fishermen eager to try out the Commission's newest lake. Twenty-five to thirty boats

are expected to be available by June 20, the day the lake will be officially opened for fishing.

A nominal rental fee will be charged for the boat use, \$1.50 per day or fraction thereof for two persons, 50¢ per day for each additional person.

There were 24,000 legal sized bass, some up to 6 pounds in weight, 3,400 legal sized bream and 20,000 small bream stocked in the 157 acre impoundment in the past year, so fishing from opening day on promises to be fast and furious. All rules and regulations pertaining to the lake will be conspicuously posted around the shore well before the season starts.

Mr. Gordon's new position also carries with it an appointment as a special warden and enforcement of all commission rulings pertaining to the new pond will be an important phase of his work.

### **Izaak Walton League Group Has Novel Contest**

The Harrisonburg-Rockingham Chapter of the Izaak Walton League has come up with a novel contest for this spring.

Starting last March 1 and ending June 30, a crow shooting contest is now on. Prizes of \$25, \$15 and \$10 are offered for the three contestants killing the largest number of crows.

Banded crows were released in Rockingham County by the club to add an element of chance to the hunt. Anyone turning in a band from one of these birds will also win a \$25 prize.

### **Crash-Landing**

Game Manager Gratton Fisher tells of a grouse which couldn't seem to control its landing gear and, as a result, died of a broken neck. Gratton was hunting with some friends on the George Washington National Forest during the past hunting season, and was on his stand waiting for something to happen, when some birds were flushed several hundred yards away. In a few seconds, a grouse flew toward him at a terrific rate of speed and, instead of landing as any normal grouse should, it crashed into a large chestnut log. Apparently its neck was broken when it hit the log, as it was dead when Gratton arrived on the scene.

### **Hits Hawk in Eye**

According to a news report from Ashland, Mrs. J. Paul McConnell is being congratulated on her expert marksmanship in killing a hawk at her home, "Bonny Biggin' Farm." The hawk had killed many chickens, and had recently become so bold he would sit on a tree and swoop down on the birds at will. Mr. McConnell, along with other people, had tried repeatedly to kill the hawk, and encouraged Mrs. McConnell to try her marksmanship. She took aim one day on the window sill of the kitchen while she was at home alone. She used a rifle and hit the bird from a distance of 150 feet. He fell out of the tree, and a later examination showed she had hit him in the eye.



J. J. Shomon.

Mr. G. W. Buller, Chief of the Commission's Fish Division, points out the fishing spots in Lake Gordon to R. T. Speers, Associate Editor of VIRGINIA WILDLIFE.





## J. HAMMOND BROWN RECEIVES IZAAK WALTON LEAGUE AWARD

The Izaak Walton League of America announced recently that J. Hammond Brown of Baltimore, president and executive director of the Outdoor Writers Association of America, had been chosen as the only 1950 recipient of the League's Public Relation Honor Roll award.

The award consists of a scroll and a life membership in the nationwide resource conservation organization. It was presented to Brown when the League held its national convention at Des Moines, Iowa.

Charles E. Broughton, editor of the *Sheboygan, Wis., Press*, and a national director of the League announced that although the League is authorized to select each year as many as five outdoor writers or others whom it judges worthy of receiving the award, it was felt Brown alone should be honored in 1950 so as to point up the high esteem in which he is held.

## COOPERATIVE WILDLIFE RESEARCH UNIT ESTABLISHED IN NORTH CAROLINA

Establishment of a Cooperative Wildlife Research Unit at North Carolina State College, in Raleigh—the 18th such unit to be organized—was announced by Secretary of the Interior Oscar L. Chapman recently.

The new wildlife research unit is a cooperative project of the U. S. Fish and Wildlife Service, the Wildlife Management Institute, the North Carolina Wildlife Resources Commission, and North Carolina State College. Sixteen other similar units in the United States and one in Alaska are all located at colleges and universities.

The Cooperative Wildlife Research Units "bring closer cooperation between private, Federal and State wildlife agencies and the respective universities and colleges—a cooperation vitally needed in any program of conservation," Secretary Chapman said.

The Cooperative Wildlife Research program was initiated in 1935. The program trains personnel for positions in the field of wildlife management, conducts research basic to the proper utilization of wildlife resources, promotes education through such means as demonstrations, lectures and publications, and provides technical assistance to conservation agencies in their wildlife management programs. The Fish and Wildlife Service assigns a biologist to each unit on a full-time basis. He supervises work of graduate student assistants

and conducts research. University staff members are responsible for the formal training program and also participate in research activities.

## OAK WILT DISEASE NOT TOO SERIOUS

An expose of fallacies contained in recent reports furnished press and radio about the oak wilt disease is featured in the April issue of *American Forests* magazine, published by The American Forestry Association, Washington, D. C. In an objective article, "Facts About the Oak Wilt," the editors report that while the disease is serious in certain midwestern localities, there is no great danger it will spread so rapidly as to wipe out the nation's oaks.

Source of this calming assertion is Dr. Curtis May, senior forest pathologist with the Department of Agriculture's Bureau of Plant Industry, Beltsville, Maryland. Dr. May states that since no spores of the oak wilt disease have ever been found on the outside of oaks, it is highly improbable the disease is airborne. To date, oak wilt has been found only in portions of six states, yet it is believed to have existed for at least 25 years and has been identified since 1944.

The article explores all the known facts pertinent to the disease, such as its spread from tree to tree through grafted roots, how to recognize a diseased oak and what measures have proven successful in arresting its spread. The factors for which satisfactory answers have not yet been found are also discussed.

## BOOK REVIEW

"ADVANCED BAIT CASTING," by Charles K. Fox, with illustrations by Fred Everett. G. P. Putnam's Sons, publishers, New York, N. Y., 204 pages. Price \$3.75.

This is a well-done book on the principles of light-lure casting with a long but very light bait casting rod. The author believes that this kind of light equipment fishing produces more fun per game fish and he goes on to prove it.

There are chapters on everything from Practice and Theory to Playing a Fish and Field Problems. There is an excellent chapter on Conservation, which alone is worth the price of the book.

Charles Fox, the author, was the hunting and fishing editor of the magazine *WE THE PEOPLE* and later editor of *THE PENNSYLVANIA ANGLER*, the publication of the Pennsylvania Fish Commission. He has contributed to *FIELD AND STREAM*, *OUTDOOR LIFE*, *THE PENNSYLVANIA GAME NEWS* and others.





for

Students

Teachers

Parents

## FORESTS AND SOIL

In studying conservation, one of the first things we have to learn about is the relationships that nature has established between living things and their environment. This month we are going to consider one of these relationships: that between forests and the soil upon which they grow.

Soil, of course, is only one of the factors that determine what kind of trees shall grow in a certain area, but it is an important factor, nevertheless. Some soils are best adapted to the growth of coniferous trees or "evergreens," others are more favorable to hardwood growth. Usually the acid soils are the conifer growing soils with hardwoods favoring a soil that is more basic in character.

Characteristics of the soil have a great amount of influence on the manner in which a tree grows. Rocky, scanty soil in which the roots have to fight for a toe hold will certainly not produce the growth that a deep rich earth would.

Nature is not unfair in the relationships between forest and soil, although at first glance it might seem as though the forests were getting all and giving nothing. Trees, through their masses of roots in the earth and their heavy accumulations of fallen leaves on the forest floor, help to hold the top soil and prevent it from being swept away by heavy rains and floods. As a matter of fact, the presence of trees on an area will prevent a heavy run-off of the water because the foliage will catch and hold much of the rainfall and the root systems will absorb a large part of the water which reaches the ground. In addition to the benefit of soil retaining, soil enrichment can be claimed for

most trees when fallen leaves decay and form a humus layer.

## BIRD OF THE MONTH

If you are ever walking through fairly open woods or across an overgrown field and a bird about the size of a quail gets up and flies away with a disconcerting opening and shutting of his wings and a crazy up and down flight as though bobbing over a series of small hills, then chances are that you have just seen a flicker.



Flicker

If a large white spot is visible on the bird's rump as it flies and the underside of the wing has a decidedly yellowish tinge, then it is almost certain that you have seen a flicker!

The flicker is a fair sized woodpecker and is distributed throughout most of the eastern United States. Like most woodpeckers, he devours enormous quantities of harmful insects every day. It might be said that he is the carpenter of the bird world

because woodpecker holes are often used by other birds for nesting sites.

His own nest is also made in a hole in a tree and six to ten white eggs are laid and incubated. Young flickers are extremely ugly little birds with bills out of all proportion to their bodies and like all small birds are perpetually hungry. The parents are kept busy feeding on ants and then regurgitating them to feed the young.

## CLASSROOM SUGGESTIONS

Classroom suggestions for this month apply not only to teachers but to any other interested conservationists who work with youth groups such as Boy Scouts, Girl Scouts, 4-H'ers, etc.

The National Wildlife Federation, 1129 Vermont Ave., N. W., Washington 5, D. C. has some excellent booklets for use by youth groups. The booklets are four in number and collectively are called the "My Land and Your Land Conservation Series."

Listed by grade levels they are as follows:

1. Would You Like To Have Lived When—? (Grades 3, 4, 5)
2. Raindrops and Muddy Rivers (Grades 4, 5, 6)
3. Plants and Animals Live Together (Grades 5, 6, 7)
4. Nature's Bank—The Soil (Grades 6, 7, 8)

Prices on the booklets are 25¢ each but since most publications put out by the Federation have a reduced price for quantity purchasers it might be possible to obtain a number of them at a reduced rate.



# LAW ENFORCEMENT OFFICERS

## Chief of Division

M. W. KESTERSON, Richmond, Virginia

## Supervising Wardens

District	Name	Address
Northwest	Webb Midyette	Ashland
Piedmont	I. H. Vassar	Charlotte Court House
Potomac	W. H. Johnson	1606 N. Harrison St., Arlington
Southwest	J. W. Francis	Stuart
Tidewater	J. B. West	Amelia

## Conservation Officers

Northwest—H. W. Glascock	Culpeper	Potomac—John A. Heflin	Lucketts
Northwest—T. J. Starrett	134 Oates Ave., Winchester	Southwest—Jesse S. Mise	Box 547, Marion
Northwest—Fred W. Hottle	Edinburg	Southwest—Wm. D. O'Neill	Norton
Piedmont—J. W. Fears	Charlotte Court House	Southwest—Lawrence R. Burton	Stuart
Piedmont—J. P. Monaghan	Box 2151, Lynchburg	Tidewater—John B. Nicholson	P. O. Box 65, Wakefield
Piedmont—Andrew G. Burns	518 Beverly St., Covington	Tidewater—Robert C. Yates	Holdcroft
Potomac—John L. Stringer	R.F.D. 3, Fairfax	Tidewater—Harry G. King	Disputanta
Potomac—Wallace J. White, Jr.	Tappahannock		

## Virginia Game Wardens

County	Name	Address	County	Name	Address
Accomack—M. J. Doughty.....	Wachapreague	Lancaster—H. H. Pittman.....	Regina		
Accomack—E. C. Cropper.....	Keller	Lee—E. T. Rasnie.....	Pennington Gap		
Albemarle—Moffett G. Elliott.....	318 10th St., N. E.	Loudoun—Thomas A. Daniel.....	Rt. 1, Leesburg		
	Charlottesville	Louisa—H. T. Payne.....	Pendleton		
Albemarle—Wm. R. Napier.....	North Garden	Lunenburg—J. R. Bacon, Jr.....	R.F.D., Kenbridge		
Alleghany—Hubert R. Bunch.....	129 Lexington St., Covington	Madison—W. M. Pattie, Jr.....	Madison		
Amherst—T. D. Woods.....	Agricola	Mathews—(See Gloucester Co.)			
Amelia—L. A. Coleman.....	Amelia	Mecklenburg—W. S. Crute.....	Baskerville		
Appomattox—D. A. Conner.....	Appomattox	Middlesex—B. U. Miller.....	Amburg		
Augusta—H. I. Todd.....	Box 446, Staunton	Montgomery—John G. John.....	Shawsville		
Augusta—C. L. Miller.....	Deerfield	Nansemond—W. S. Rountree.....	544 3rd Ave., Suffolk		
Bath—Ray F. Jenkins.....	Mountain Grove	Nelson—W. A. Hill.....	Tyro		
Bedford—W. W. Shields.....	Box 290, Bedford	New Kent—Robt. L. Griffith.....	Tunstall		
Bland—Ben L. Bird.....	Bland	Norfolk—W. C. Ansell, Jr.....	1033 Livingston Ave.,		
Botetourt—L. E. Styne.....	Buchanan		Norfolk 6		
Brunswick—D. L. Young.....	Warfield	Norfolk—G. F. Brown, Spl.....	Deep Creek		
Buchanan—Roy A. Smith.....	Grundy	Northampton—E. J. Doughty, Jr.....	Oyster		
Buckingham—C. C. Spencer.....	Guinea Mills	Northampton—R. T. Charnock.....	Eastville Station		
Campbell—P. P. Monaghan, Jr.....	Rt. 2, Box 234, Lynchburg	Northumberland—S. A. Blackwell.....	Remo		
Caroline—Roland Eagar.....	Bowling Green	Nottoway—W. C. Irby, Jr.....	Blackstone		
Carroll—R. E. Gardner.....	Fancy Gap	Orange—W. D. Mann.....	Rhoadesville		
Charles City—Berry L. Adams.....	Providence Forge	Page—H. W. Keller.....	Luray		
Charlotte—David Lee Tharpe.....	Drakes Branch	Patrick—Sam Dobyns (Spl. Acting)	Stuart		
Chesterfield—E. J. Gorman.....	824 E. 45th St., Richmond	Pittsylvania—P. C. Pickrel.....	R.F.D., Gretna		
Clarke—Donald Levi.....	Berryville	Pittsylvania—John A. Tramel.....	R.F.D. 1, Danville		
Craig—C. W. Surber.....	New Castle	Powhatan—C. P. Montgomery.....	Fine Creek Mills		
Culpeper—C. H. Robson.....	Jeffersonton	Prince Edward—G. L. Cox.....	Farmville		
Cumberland—Curtis L. Heath.....	Cartersville	Prince George—Thomas W. Harrison.....	Disputanta		
Dickenson—C. F. Beverly.....	Rt. 2, Clintwood	Princess Anne—R. O. Halstead.....	Creeds		
Dinwiddie—J. W. Rives.....	McKenney	Princess Anne—Wm. A. Caton.....	R.F.D. 1, London Bridge		
Elizabeth City—A. O. Smith.....	Box 442, Buckroe Beach	Princess Anne—J. A. Saunders.....	Back Bay		
Essex—W. E. Ware.....	Dunnsville	Prince William—Walter Lee Flory.....	Nokesville		
Fairfax—Fred Brown.....	Rt. 3, Box 795, Fairfax	Pulaski—Donald T. Vaughn.....	R.F.D. 2, Pulaski		
Fauquier—J. K. Douglas.....	Catlett	Rappahannock—C. E. Brown.....	Sperryville		
Floyd—John W. West.....	Rt. 6, Floyd	Richmond—H. L. France.....	Ethel		
Fluvanna—W. M. Haden.....	Troy	Roanoke—Geo. S. Harmon.....	Box 365, Salem		
Franklin—Gordon T. Preston.....	Rocky Mount	Rockbridge—Posie Kemp.....	Fairfield		
Frederick—Earl Lee Cather.....	R.F.D. 3, Winchester	Rockingham—W. C. Fawley.....	Cootes Store		
Giles—Wm. T. Jamison.....	Pembroke	Rockingham—Elwood G. Smith.....	Dayton		
Gloucester & Mathews—Sam R. Stanford.....	Gloucester	Russell—J. H. Perry.....	Hansonville		
Goochland—S. W. Breed.....	Manakin	Scott—L. O. Alley.....	Clinchport		
Grayson—W. D. Hampton.....	Independence	Shenandoah—E. D. Sheetz.....	Edinburg		
Greene—Thomas P. Runkle.....	Rt. 1, Stanardsville	Smyth—W. W. Newman.....	Marion		
Greensville—P. F. Squire.....	R.F.D., Emporia	Southampton—S. V. Camp, Jr.....	Sebrell		
Halifax—Ralph E. Austin.....	Clover	Spotsylvania—P. Blake Lewis.....	Box 74, Fredericksburg		
Halifax—Arthur E. Cole.....	R.F.D., Virgilina	Stafford—(See King Geo. Co.)			
Hanover—W. S. Harris.....	R.F.D., Beaverdam	Surry—Charles N. Hunter.....	Spring Grove		
Henrico—C. I. Smith, Jr.....	2401 Staples Mill Rd., Richmond	Sussex—Geo. A. Hawks.....	Carson		
Henry—E. T. Lemons.....	Box 1, Collinsville	Tazewell—E. W. Wilson.....	Tazewell		
Highland—C. H. Corbett.....	Vanderpool	Warren—Jas. W. Simpson.....	Box 180, Front Royal		
Isle of Wight—G. F. Hall.....	R.F.D., Smithfield	Warwick & Newport N.—P. H. Garrow, Jr.....	Menchville		
James City—York—Wm. C. Hogge, Jr.....	Poquoson	Washington—Ernest S. Yeatts.....	Meadow View		
James City—Eugene R. Meadows, Spl.....	Lightfoot	Westmoreland—P. H. Gouldman.....	Horners		
King George & Stafford—R. S. Purks.....	Rt. 2, Fredericksburg	Wise—Cecil B. Bays.....	Box 283, Norton		
King & Queen—Carlisle T. Bland.....	Shanghai	Wythe—R. M. Wolfenden, Jr.....	Wytheville		
King William—Geo. H. Meredith.....	King William	York—(See James City Co.)			

## City Wardens

Danville	T. C. Dameron, 508 Craghead St.	Portsmouth	Norman B. Myers, 1621 Elm Ave.
Norfolk	D. A. Robertson, 231 E. Princess Anne Rd.	Richmond	J. H. Hill, 2711 Woodrow Ave.
Norfolk	D. A. Robertson, Jr., 231 E. Princess Anne Rd.	Roanoke	G. C. Flippen, Box 161
Petersburg	F. M. Fenderson, 1517 Halifax St.		

RED-SHOULDERED  
HAWK



BROAD-WINGED  
HAWK

# BROAD WINGED HAWKS

THE "BUTEOS" ARE KNOWN  
BY THEIR BROAD WINGS  
AND BROAD, ROUNDED TAILS

THEY SOAR IN WIDE,  
HIGH CIRCLES AND  
PERCH IN OPEN TREES

FOODS INCLUDE INSECTS,  
FROGS AND SOME BIRDS



MARSH HA



RED-TAILED  
HAWK